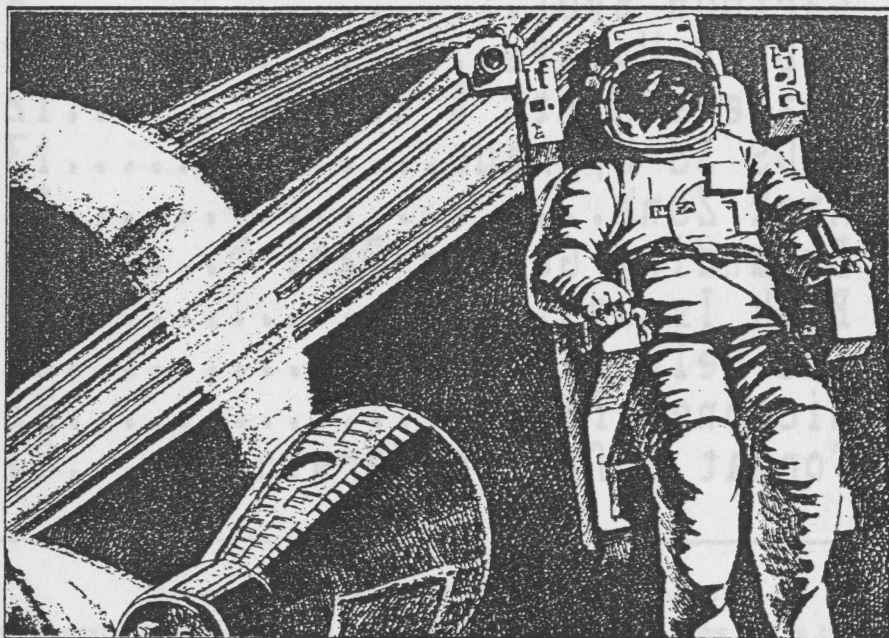


FORMAT

A Magazine from INDUG
For DISCiPLE & PLUS D Users

ISSUE #11 - JUNE 1988



SIMPLY OUT OF THIS WORLD

INDUG.

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Writing FORMAT and running INDUG is now taking up more and more of my time, so from the 1st September I intend to give up my consultancy work and devote all my efforts to making things even bigger and better. In the meantime I must admit to being overloaded with work. Correspondence in particular demands so much time that I am now running about two months behind. I must give priority to letters from overseas members as they can't use the HOTLINE service.

In future I can't promise to answer all letters from UK members with a personal reply but to make up for this I offer two concessions. First the HELP PAGE will be expanded over the next few months to answer more of your questions through FORMAT. Secondly I'm dropping the charge for the HOTLINE so all UK members can get instant answers to their problems.

Another change starting from next month will be the 'Bargain Corner'. We will now print small adverts (up to 30 words) FREE OF CHARGE, provided that it is from a private person (not a business) and the total advertised price does not exceed £50. So there's no excuse now not to send in that small advert.

Calling all Computer Clubs. I am planning a quarterly listing of computer clubs. If you run, or belong to, a computer club then drop me a line. Give me the name of the club, its meeting place, when it meets and the name and address of a contact (with telephone number if possible). It would also be interesting to know what your membership is and details of club activities. The first list will be printed as soon as I have enough details to make a decent list.

MGT are now settled into their new Swansea premises and enjoying the luxury of the extra space. Their new telephone number is 0792-791100.

Last, but by no means least, we have a regular new column starting this month. Called 'HACK ZONE' its written by Hugh McLenaghan and will concentrate on games conversion and hacking. I'm sure it will soon become a firm favourite with readers.

See you next month.

Bob Branchley. Editor.

p.s. Sorry I missed the ZX Microfair, I fell for one of those 24 hour bugs and couldn't get to London. I will try to make up for lost time at the next show (September I think).

NEWS ON 4

NEC PRINTER WARNING

NEC(UK)Ltd have issued a warning about supplies of their P2200 dot matrix printer. It appears some printers have been imported into the UK through the 'back door' so to speak.

These printers where produced for the American market so to make them work over here someone has modified them internally. This, of course, is not to the liking of NEC and they point out that the printers are not covered by their normal warranty or repair service.

Printers from this suspect batch have warranty cards that have the address NEC Information Systems Inc of Boxborough, USA. In some cases printers have had their serial numbers removed. If in doubt contact NEC on 01-882-6894.

PRINTER PRICE RISE

Japanese printer manufacturers are planning what may be large increases in the price of their printers. The European Commission imposed a 33% levy on imported printers to counter what is seen as 'dumping' on the EEC market.

Epson is the first company to announce an increase, effective from June 13th. They are less affected by the levy than some companies as a large quantity of their printers are produced in factories in the UK and France. Their popular 9-pin dot matrix printer, the LX800, goes up from £275 to £279 while the 24-pin printers go up as much as £34.

SINCLAIR GOES STATESIDE

Uncle Clive launched his Z88 lap-top into the American market this month. At COMDEX, the big US computer show, Sinclair's latest baby was well received, could this be the start of his big come-back in the US? We hope so.

NEW STAR PRINTER

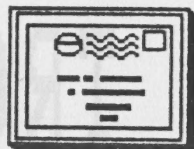
Star Micronics have launched their latest Multifont LC24-10 24-pin dot matrix printer. Priced at £379 it has eight fonts built in, with the option of others being added using plug in cards. The text can be altered to give shadow, outline or both, as well as the normal bold, condensed etc. Print speed is 160 characters per second in draft mode or 55 cpi in Letter Quality mode.

ZX-GUARANTEED

Geff Bobker (ZX-Guaranteed) has announced his move into DISCiPLE / PLUS D software. Long famous for his utility programs (and his warning - don't ring when STAR TREK is on) Geff now plans to produce disc versions of most of his programs.



YOUR LETTERS



Dear Editor,

Having read your editorial in the April FORMAT I got cross about what you say on Spectrum wordprocessors. What do you mean that when you underline a word you do not get right justification line? Have you tried Tasword 3? As for using a spelling checker with the BBC, surely you must have bought it. Why not buy TAS-SPELL from Tasman? It has got a 70,000 word dictionary which must be enough for your purposes.

I do not know the Wordwise program but I expect that the Tasword 3 program will work in a similar way in formatting the output if not being better altogether! In short there is not a thing you can do with the BBC that you can not do with the Spectrum and possibly at a lower price. Anyway keep up the good work.

Yours Sincerely, Enrico Tedeschi.

OK, from the top, Tasword 3 is not yet available for the DISCiPLE. TAS-SPELL is only available on the +3 and it isn't very good even then. Next, try the test I gave, I only know of on Spectrum wordprocessor that will come close to doing it and thats The Last Word. And thanks for the final comment. Ed.

Dear Editor,

I would like to tell you about my latest buy which was advertised in FORMAT. It is the DISCiPLE DISC MANAGER. This has turned out to be one of the most useful items of software I have. No more cataloguing all my discs just to find one program. Load in the Manager and, after a fast search, I can load my program direct. The disc naming facility included is great. No need to individually label each disc. Just number each one and the Manager finds the disc number and name.

Initially, I had one or two problems with the software and wrote to Dave Hood of Better Bytes outlining what was wrong. The tape which was sent to me would not load on my +2 and, after many attempts to get it running, I gave up and sent it back. No letter was forthcoming, instead Dave telephoned me at home and explained that he had recorded another version of the program with two different tape decks and, if that didn't work, he would put the program onto disc for me. He called back next evening to check that it had arrived and to see if I was still having problems. He talked me through the initial loading and running of the Disc Manager! There can't be many software houses as conscientious as this one! Dave even called me back later to see how I was getting on and was genuinely interested in my comments about the programs. I have never had such good service from a business as I had from Better Bytes and would gladly recommend both the software and the owner to everyone.

Incidentally, the problem on loading has since been traced to the grotty tape deck on the +2.

Yours Sincerely, Ralph Kelly.

Letters printed may sometimes be edited for length or clarity.

TROJAN LIGHT-PEN

TROJAN CADMASTER LIGHT-PEN AND GRAPHICS SOFTWARE REVIEWED

By: JOHN WASE.

This gadget, first introduced in 1986, is a device which draws directly on your TV/monitor screen. Yes, truly; you select the appropriate colour, width and type of line merely by pointing the pen at the menu; then press the space bar, move the light pen and there you are; a line.

But I'm going too fast. The Trojan light pen (either as a Trojan, or badged) now sells to all sorts of computer owners; Spectrums, Amstrads, PC compatibles.... We were not sure how it agreed with our DISCiPLE / PLUS D units, however, so we've checked on them. Here's the results of our tests.

The light pen comes in several versions: for 48K, Spectrum+ and Spectrum 128; for Spectrum+2. I had the 48K and +2 versions. The package comes as a smart, colour-coded plastic box which neatly holds the cassette, light pen and instruction booklet and stands tidily on my bookshelf - about the size of a good thick penguin paper-back. The instructions for cassette loading are clear: no trouble, except that the +2 software has obviously been upgraded - you no longer need to tell it to run. Up comes

TROJAN CADMASTER (C) 1985

THIN	☒	DRAW	☐	COPY	☐	*	☐
MED.	☐	LINE	☐	FILL	☐		☐
THICK	☐	BAND	☐	TEXT	☐		☐
QUIL1	☐	RAYS	☐	WINDO	☐		☐
QUIL2	☐	BOX	☐	PROUT	☐	*	☐
DOTLI	☐	TRIA.	☐	ERASE	☐	*	☐
BRUSH	☐	CIRC.	☐	NEW	☐	*	☐
PAPER	☐	INK	☐	SA/LO	☐	*	☒

the main menu - here's a screen dump done from my PLUS D - with the default values set to thin, ink and white. Provided that you read the +2 kit's instructions properly and plug the light pen into joystick port number two, all you have to do is to point the light pen at what you want, and magic! The selected square changes to red - and that's what you'll get.

Apparently it all works because the software enables it to "lock on" to the monitor screen scan, so it knows just where it's writing to, or reading from. Cunning stuff. (Well, I think that's right. Tom Jones of Trojan explained it to me when I phoned him. The firm seems very friendly, its service is good, and they offer a helpline phone number to users in trouble). So what options can it "lock on" to? There are, for a start, seven line types, varying from thin to thick, with two quills (x-direction lines thicker than y), a dotted line and a brush effect - a broad swathe of dots. Select "draw" and point the light pen at the screen. Then press the space bar. A large,

white cursor appears. Move the light pen slowly and steadily across the screen - the cursor follows, and a line of the appropriate thickness is left behind. Pressing E at any time erases the last line drawn, so it's best to draw short sections at a time, raising and lowering the space bar between each line and the next. Paper allows you to "invert" parts of your masterpiece, ink gets you back to drawing again. Lots of options are available. Line joins two cursors and you can do banding, boxes, rays, triangles and circles in a whole range of sizes and pen types. You can copy parts of your creation to another part of the screen, fill bits with a specified colour (within the Spectrum's limitations) add text or make a window which can then be used for erasing a specified area. There is an option to print copies and the facility to save or load screens.

As a whole, the package worked pretty well. My son much enjoyed writing his name (see screen dump). My wife likes the idea and will test it on her Spectrum in school with her class. It's a great fun toy - with limitations. The accuracy of lines, particularly a one pixel line is not particularly good, so you're not going to get the same results you would with a graphics package - this is for the quick, bold effect. I tried holding a ruler to the screen, but this is difficult because you need a third hand to press the space bar, although it did keep the line from wobbling so much when I got someone else to hold the bar down.

The software works well, and is easily converted to various devices. I tested it with the Disciple, with and without the Disciple version of the standard Kempston mouse interface attached, with the PLUS D, with and without the mouse interface. The autorun option on the microdrive and Opus both need a file called run: on the DISCIPLE / PLUS D you need a file called AUTOLOAD. In this case, put a newly formatted disc in drive 1, and do MERGE "". When you have read in the first file from the tape (called CADMASTER2), stop the tape. List the program and modify line 8000, changing line 8000 to AUTOLOAD if you want it to autoload. If you don't, then change it to CADMASTER but not to CADMASTER2 - it will overwrite the code file when it saves. Finally, do CLEAR 39000: LOAD ""CODE: GO TO 8000, restart the tape and it will save it all to disc.

The disc now loads the software beautifully. And whatever the disc unit, if you select the microdrive save option, it will now save your picture to disc. Great!!! The three versions are all different. If you have a Spectrum with an ear socket on the back - the 48K, the Spectrum+ or the Sinclair 128K - then you need the version which has to have a PP3 battery in the clip at the end of the table, so if you're asking for this as a gift, or for that matter giving it, do include the battery - it's not in the Trojan pack. And I found that this version needed the television turned up much higher than the +2 version. Incidentally, it's not in the instruction book, but if the draw screen flashes alternately black and white and the Spectrum beeps in time, it means the signal's too low and the pen can't "lock on": just turn up the telly.

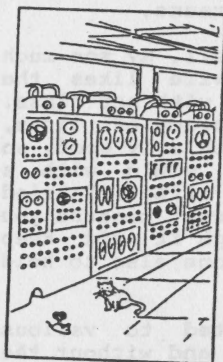
In short, this pen will never make you a graphic genius, but

it's great fun, it all works, and at either £19.95 on its own, (all versions) or bundled with "The Last Word" as a package called "Graphprobe" at £29.95 and it's excellent value.

TROJAN PRODUCTS,
166, Derlwyn,
Dunvant,
Swansea,
SA2 7PF.

Tel: 0792-205491

Dafydd



"I hope you won't take it too hard being replaced by a computer."



"The computer is down! Everybody think!"

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ZX-GUARANTEED (G.A.Bobker) Dept: INDUG. 29 Chadderton Drive, Unsworth, Bury, Lancs, BL9 8NL. Tel: 061-766 5712 (Do NOT phone if STAR TREK is on TV)

PLUS D UPDATE

By: Bob Brenchley and Nev Young.

In last months FORMAT we promised PLUS D owners a DOS upgrade to match the one we did for DISCiPLE users. Well here it is, version 'a', but before we go too far lets explain the differences between the current G+DOS 1 and G+DOS 2. There isn't any... the difference is in the ROM. When you 'boot' your system there's a brief flash of a message giving the ROM version number. ROM 1, the first obviously, and ROM 1A, which was introduced early this year to counter problems with some disc drives. Two changes were made, one to the formatting routine and one to the sector read routine. To allow the PLUS D to work with disc drives that do not have a proper 'back-stop', in other words drives where the head could find itself on track -1. There is no difference in the DOS system files except in the addresses called in ROM.

OK, now to the real business of the day. All of the comments in last months GDOS update relating to OPENTYPE file handling apply to G+DOS so to save space I wont bother to repeat them here. However when investigating the PLUS D system another problem was found. Its in the MOVE command, when more than one file was MOVED to an OPENED disc channel the resulting output file had a zero length.

G+DOS is remarkably bug-free for such a complex system but as Walter Kelly was good enough to point out in issue 8 it did need a fix to work the 'Full Screen Editor' in 128k mode on the +2. Don't blame Bruce Gordon for that one, blame AMSTRAD for mucking up the 128's ROM. Walter's fix is included in this months upgrade.

Next some improvements to the file copy routine. When you copy a file on a single disc i.e. SAVE d1"THIS FILE" TO d1"THAT FILE" you are told to change disc and press space. Fine if you are transferring one or two files but, if you are copying lots, its all too easy to get the two discs mixed up which could cause a disaster if your original disc isn't 'Write Protected'. The new routine gets round this by prompting you to 'Insert SOURCE disc - Press SPACE' and 'Insert TARGET disc - Press SPACE' so there's less chance of confusion. Walter Kelly has also provided a solution to another problem for 128k users. When the SAVE..TO.. command is finished it does a system NEW, as the 48k ROM is paged in this leaves 128k users in 48k mode with the annoying job of pressing the reset button before they can select 128k mode from the front menu. Walters solution is to test for the ROM that called the DOS routine and, if it was the 128k ROM, to do a 128k reset to put you straight back to the menu.

Now type in the listing and run it, people with ROM 1 omit

line 399. People with ROM 1A can forget lines 400-490. Most DATA statements listings seem to give problems to some people so this month we make life VERY easy for you. Each DATA line ends in a negative number, this is the sum of the data items (with 0 counting as 256 to avoid missing zeros) subtracted from zero. So all the program needs to do is total each data item, add the check-sum in then test for zero. If you get an error look for the DATA line starting with the address given.

```

1 REM G+DOS UPGRADE
2 REM (C)1988 INDUG.
3 REM All rights reserved.
4 REM
5 REM Converts DOS 1 or 2
6 REM to version 1a or 2a.
7 REM
8 REM *****
9 REM Includes full screen
10 REM editor (128k) pokes
11 REM from FORMATE8 March'88.
12 REM *****
13 REM
20 RESTORE
30 LET SUM=0: READ ADDRESS: LET SA=ADDRESS
40 IF ADDRESS=99999 THEN GO SUB 500: GO TO 1000
50 READ BYTE
60 IF BYTE<0 THEN GO TO 100
70 POKE @ADDRESS-8192,BYTE
80 LET ADDRESS=ADDRESS+1: LET SUM=SUM+BYTE: IF BYTE=0 THEN LET
SUM=SUM+256
90 GO TO 50
100 IF SUM+BYTE<>0 THEN PRINT "CHECK SUM ERROR AT ADDRESS ";SA:
STOP
110 GO TO 30
200 REM ***** THE DATA *****
205 DATA 8928,158,-158
210 DATA 8930,164,-164
215 DATA 8934,171,-171
220 DATA 8942,177,-177
225 DATA 8946,183,-183
230 DATA 8954,189,-189
235 DATA 8964,16,49,-65
240 DATA 8969,8,49,-57
245 DATA 9161,55,49,-104
250 DATA 9386,205,2,7,58,16,62,0,0,0,0,-1630
255 DATA 9441,197,203,127,40,1,135,214,4,33,0,0,6,10,22,0,95,25
,16,253,193,0,0,-2854
260 DATA 11572,42,49,-91
265 DATA 11585,205,2,7,0,0,0,-982
270 DATA 11671,205,2,7,0,0,0,-982
275 DATA 11707,195,220,45,-460
280 DATA 11916,23,49,-72
285 DATA 12144,0,0,0,0,-1024
290 DATA 12186,205,2,7,201,205,139,47,195,217,10,205,158,47,205
,121,40,201,-2205
295 DATA 12203,205,203,47,195,80,8,205,139,47,195,207,11,205,20
3,47,195,158,7,205,139,47,-2748
300 DATA 12364,138,-138

```

```

305 DATA 12386,138,-138
310 DATA 12403,138,-138
315 DATA 12436,77,105,108,101,115,32,71,111,114,100,111,110,32,
84,101,99,104,110,111,108,-1904
320 DATA 12456,111,103,121,32,71,43,68,79,83,50,97,-858
325 DATA 12469,58,7,49,238,1,50,7,49,32,36,205,138,23,13,73,110
,115,101,114,116,-1535
330 DATA 12489,32,83,79,85,82,67,69,32,100,105,115,99,32,45,32,
112,114,101,115,115,32,83,80,65,67,197,205,138,23,13,-2517
335 DATA 12519,73,110,115,101,114,116,32,84,65,82,71,69,84,32,1
00,105,115,99,32,45,32,-1676
340 DATA 12540,112,114,101,115,115,32,83,80,65,67,197,0,175,50,
7,49,205,53,22,201,167,202,-2468
345 DATA 12562,179,44,195,94,46,221,94,17,221,86,18,221,126,11,
50,206,58,205,28,7,205,137,11,201,-2681
350 DATA 12586,229,42,102,32,124,181,225,202,143,45,195,124,22,
253,203,1,102,202,79,0,-2762
355 DATA 12606,205,0,91,243,1,199,0,195,70,0,221,33,12,0,205,11
0,4,221,33,195,58,201,-3321
399 DATA 99999: REM remove if using ROM 1.0
400 DATA 9387,238,6,-244
405 DATA 11586,238,6,-244
410 DATA 11672,238,6,-244
415 DATA 12187,238,6,-244
420 DATA 12194,205,-205
425 DATA 12207,63,-63
430 DATA 12213,199,-199
435 DATA 12219,138,-138
440 DATA 12364,97,-97
445 DATA 12386,97,-97
450 DATA 12403,97,-97
455 DATA 12465,49,-49
460 DATA 12480,97,-97
465 DATA 12516,97,-97
470 DATA 12557,12,-12
475 DATA 12580,8,-8
480 DATA 12583,125,-125
485 DATA 12597,83,-83
490 DATA 99999
500 RESTORE 560
510 FOR I=1 TO 23
520 READ X: LET X=X-8192
530 POKE @X,72: POKE @X+1,49
540 NEXT I
550 RETURN
560 DATA 9007,9360,9370,9510,9580,9878,9991,10005,10031,10042,1
0084,10096
570 DATA 10151,10232,10345,10964,11029,11398,11817,11829,11841,
11969,12345
1000 REM SAVE THE NEW SYSTEM
1010 LET N$="+Sys 1a"
1020 IF BYTE=-3321 THEN LET N$="+Sys 2a"
1030 SAVE d1:N$CODE 8192,6656
1040 PRINT "ALL DONE": BEEP 1,1

```

Thats all for now, we think that covers all known bugs on the PLUS D, unless of course you know of a new one.



HINTS & TIPS

Readers Hints & Tips to help everyone get the most from their computing.

Send your Hint or Tip for the DISCIPLE, PLUS-D or Spectrum to the address on page 2. Try to keep them short and sweet so we can get as many in as possible.

BETA BASIC SPLICERS

In the recent review of the excellent BETA BASIC, John Wase stated (as does its author Dr Wright) that you can't save 'SPLICERS' (parts of programs or variables only) to disc on the DISCIPLE / PLUS D. In fact 128k users can get around this in the following way.

First use the SAVE! command to copy the section you want to RAM DISC. However, you must name the file as a string array i.e. the last character must be a '\$' sign. After that transfer the file to disc using the OPEN# & CLOSE# commands to create an OPENTYPE file. To reload the file INPUT! to place it back into RAM DISC then MERGE! to insert into your program.

The following lines from my own database program show you how easy it is:-

```
1000 SAVE! DATA "MAGVAR$"           :save variables to RAM DISC
1010 OPEN #8;d1"MAGVAR$" OUT         :transfer previously
1020 LIST #8;i"MAGVAR$"             :save!d variables to disc.
1030 CLOSE #*8

2000 OPEN #7;d1"MAGVAR$" IN          :open input file
2010 INPUT#7;i"MAGVAR$"             :copy file to RAM DISC
2020 CLOSE #*7                      :then close Disc file
2030 MERGE!"MAGVAR$"                :and merge into program
```

The same method can be used for program routines etc.

Lou Oliver. Perth.

TASWORD 2 E# & (c)

This little machine code routine patches Tasword 2 so that the pound, hash and copyright signs are printed out in high-res mode (just like the DOS does when you LPRINT or LLIST). First load Tasword in the normal way and exit to Basic (option B from menu) then type in the following temporary lines:-

```

9000 POKE 60823,205:POKE 60824,40:POKE 60825,209
9005 LET C=0
9010 FOR I=58152 TO 58229:READ N:POKE I,N:LET C=C+N:NEXT I
9015 IF C<>6557 THEN PRINT "ERROR IN DATA":STOP
9020 DATA 229,197,254,35,32,5,33,82,209,24
9025 DATA 21,254,96,32,5,33,94,209,24,12
9030 DATA 254,127,32,5,33,106,209,24,3,215
9035 DATA 24,7,6,12,126,35,215,16,251,193
9040 DATA 225,201,27,75,8,0,0,36,126,36
9045 DATA 36,126,36,0,27,75,8,0,0,18
9050 DATA 126,146,146,2,0,0,27,75,8,0
9055 DATA 126,129,189,165,165,129,126

```

Now RUN 9000 then, if there is no error in the data, type RUN to enter Tasword. Select option 'T' from the menu to save the program to a fresh disc.

Once tested you can always reload and delete the extra lines of Basic (the routine is now part of the CODE file) then save your new working copy of Tasword.

Dave Marriott. London.

INTO SNAP

Here's a little one for PLUS D owners which someone will find a use for I'm sure. Enter RANDOMIZE USR 102 and its just as if you pressed the Snapshot button.

D.Talbot. Oldham.

+ + + + +

GDOS 3d UPGRADE

By: Bob Brenchley.

In last months FORMAT we did an upgrade of GDOS to version 3c. Well first I must eat humble pie, in transcribing my work copy of the amendments to the master copy I lost an instruction. If in Basic you try to OPEN a file that already exists the system will crash: My fault entirely and I plead temporary insanity (or is it permanent? I sometimes wonder). Still I needed to fix it, but in the meantime I discovered a few other things (partly due to the PLUS D update, see this issue) that needed altering.

The MOVE command now works as it should (see PLUS D article) and there's a couple more modifications to the Command Codes which I will explain in a later article.

Type in the listing and hey-presto version 3d. Please read the notes in the PLUS D UPDATE article about the new DATA check-sum

method we are using.

```
1 REM GDOS 3d UPGRADE
2 REM (C)1988 INDUG.
3 REM All rights reserved.
4 REM
5 REM *****
6 REM Converts 3c to 3d
7 REM *****
8 REM
10 RESTORE
20 LET SUM=0: READ ADDRESS: LET SA=ADDRESS
30 IF ADDRESS=99999 THEN GO TO 1000
40 READ BYTE
50 IF BYTE<0 THEN GO TO 90
60 POKE @ADDRESS-664,BYTE
70 LET ADDRESS=ADDRESS+1: LET SUM=SUM+BYTE: IF BYTE=0 THEN LET
SUM=SUM+256
80 GO TO 40
90 IF SUM+BYTE<>0 THEN PRINT "CHECK SUM ERROR AT ADDRESS ";SA:
STOP
95 GO TO 20
100 REM * COMMAND CODE PATCH *
101 DATA 1331,107,19,-126
102 DATA 4971,225,33,0,0,34,150,2,35,201,-1192
110 REM * PCAT ROUTINE *
111 DATA 2218,205,132,41,58,16,30,0,0,0,0,-1762
112 DATA 6522,29,60,-89
113 DATA 6544,29,60,-89
114 DATA 6561,29,60,-89
120 REM * MOVE *
121 DATA 1987,13,22,-35
122 DATA 4969,24,31,-55
123 DATA 5406,0,0,0,0,-1024
124 DATA 5638,225,202,61,19,195,88,41,253,203,1,102,202,79,0,20
5,0,91,243,1,199,0,195,70,0,-3699
500 REM * UPDATE VERSION *
501 DATA 6624,100,-100,99999
1000 REM SAVE NEW SYSTEM TO DISC
1010 SAVE d1"Sys 3d"CODE 0,6656
1020 PRINT "ALL DONE"
```

The only reported bug so far that I can't fix as part of this upgrade (its in the ROM) comes when you get the error 'Not enough SPACE on disc' when saving a file. Once this message has been printed it will keep coming up, even if you change to a blank disc, until you switch off and start again. Reloading the system file has no effect as the ROM routine that causes the trouble is testing location 7455 (1D1F hex) which is not overwritten when you reload the system file.

You will be pleased to hear, there is an answer though. POKE @6791,0 will clear the flag that causes the problem. Now you can insert a disc with free space and save your file.

I hope the new DOS will now perform well for you, if there are any more bugs you know of then drop me a line giving details.

HACK-ZONE

By: Hugh J. McLenaghan.

To start off this month I have a conversion of Tai-Pan. This game is protected in a clever way. As its a 128K program, it uses the AY-3-8910 sound chip. As soon as the game has loaded, it sends out the value of 229 to channel 15 on the sound chip, which is unused and therefore will be unaffected by any output of sound. The program uses interrupt mode 2 which calls a routine 50 times a second, during the call the routine checks the contents of channel 15 and if it is not 229 then it does a system reset.

The Snapshot routines on the DISCiPLE / PLUS D do not save the contents of the sound registers, so when you load the game channel 15 is set at 0 and therefore the program resets.

```
Here is the check routine:-  
LD A,15  
LD BC,65533  
OUT (C),A  
IN A,(C)  
CP 229  
RET Z  
JP 0
```

The last command does the system reset, but the command before is the one which we are interested in. By changing this to a "RET" instruction the game should run as normal. To convert Tai-Pan what you do is to load the game from tape, Snapshot it to disc as usual, then type in and run the following program:-

```
10 REM TAI-PAN CONVERSION By Hugh J. McLenaghan  
20 REM On the 28th MARCH 1988.  
30 REM For DISCiPLE v3 or PLUS D  
70 CLS #  
80 PRINT "Insert Disc and press any key.": PAUSE 0: CLS : CAT*1  
: INPUT "Name of TAI-PAN in menu";n$  
90 IF LEN n$>10 OR n$="" THEN GOTO 90  
100 LET n$=n$+(" ( TO 10-LEN n$))  
110 CLS #: PRINT AT 10,10; FLASH 1;"PLEASE WAIT"  
120 FOR T=0 TO 3: FOR S=1 TO 10  
130 LOAD @*,T,S,4E4  
140 LET A$="": LET B$="": FOR A=1 TO 10: LET A$=A$+CHR$ PEEK (A  
+4E4): LET B$=B$+CHR$ PEEK (A+40256): NEXT A  
150 IF N$=A$ THEN LET ADD=4E4: GOTO 180  
160 IF N$<>B$ THEN NEXT S: NEXT T: PRINT N$;" Not on disc!":PAU  
SE 200: GOTO 70  
170 LET ADD=40256  
180 CLS #: PRINT "Found ";n$  
190 PRINT AT 10,10; FLASH 1;"PLEASE WAIT"
```

```

200 LET T=PEEK (ADD+13): LET S=PEEK (ADD+14)
210 LET D=84
220 LOAD @*,T,S,4E4: LET T=PEEK 40510: LET S=PEEK 40511: LET D=
D-1: IF D<>0 THEN GOTO 220
230 LOAD @*,T,S,4E4
240 POKE 40385,201: REM This is the POKE!
250 SAVE @*,T,S,4E4
260 CLS #: PRINT "Conversion done. You can now play TAI-PAN."

```

POKE-FIND PROGRAM.

Now we can move onto something more interesting, a poke finding program for GDOSv3 or G+DOS. Next month will be a program for Version 2 DOS. This program gives you a chance to enter published MULTIFACE pokes into a 48k Snapshot file. Next month I will give you some pokes for CYBERNOID.

```

10 CLS #
20 PRINT "Inset Disc with 48K Snapshot","file on, then press
ENTER."
30 LET A$=INKEY$: IF A$<>CHR$ 13 THEN GOTO 30
40 CAT *!
50 INPUT "Name of game? "; LINE N$
60 IF N$="" THEN GOTO 50
70 IF LEN N$>10 THEN PRINT "Name too long!": GOTO 50
80 LET N$=N$+" "( TO 10-LEN N$)
90 CLS #: PRINT AT 10,10; FLASH 1;"PLEASE WAIT"
100 FOR T=0 TO 3: FOR S=1 TO 10
110 LOAD @*,T,S,4E4
120 LET A$="": LET B$="": FOR A=1 TO 10: LET A$=A$+CHR$ PEEK
(A+4E4): LET B$=B$+CHR$ PEEK (A+40256): NEXT A
130 IF A$=N$ OR B$=N$ THEN GOTO 150
140 NEXT T: NEXT S: PRINT N$;" not on this disc.""Press any
key.": PAUSE 0: RUN
150 LET ST=4E4+256*(B$=N$)
160 IF PEEK ST>5 THEN PRINT "Not a 48K Snapshot file! Press
any key.": PAUSE 0: RUN
170 CLS #: PRINT "Found ";n$
180 INPUT "Please input MULTIFACE poke address ?";add
190 CLS #: PRINT AT LEN N$,LEN N$; FLASH 1;"PLEASE WAIT"
200 LET T=PEEK (ST+13): LET S=PEEK (ST+14)
210 LET SECTORS=INT ((ADD-16384)/510)
220 IF SECTORS<13 THEN PRINT "INVALID ADDRESS. Press any
key.": PAUSE 0: RUN
230 LET BYTES=ADD-((SECTORS*510)+16384)
240 LOAD @*,T,S,4E4
250 LET T=PEEK 40510: LET S=PEEK 40511: LET SECTORS=SECTORS-1:
IF SECTORS<>0 THEN GOTO 250
260 LOAD @*,T,S,4E4
270 CLS #: PRINT "To turn option on:-""LOAD @*,";T",";S",";4E4
:POKE ";4E4+BYTES;" value:"
"SAVE @*,";T",";S",";4E4:LOAD D*"";N$;""S"
290 PRINT ""To turn option off:-""LOAD @*,";T",";S",";4E4:POKE
";4E4+BYTES;"";PEEK
(4E4+bytes); "SAVE @*,";T",";S",";4E4:LOAD D*"";N$;""S"

```

Next month: the Poke-Find routine for Version 2 DOS, and a program to make Match-Day 2 Snapshot at any time.

EXPANDING GENS

PART 5.

By: DAVE KENNEDY

This months instalment of EXPANDING GENS is the final part. It continues the code for the new commands described in part 3 (FORMAT issue #9).

```
4530 ERR1    LD HL,ERRMESSAGE ;"*error*"
4540 M24      JP PNTMESSAGE
4550 CONT     PUSH BC          ;block length
4560         LD HL,SCREEN      ;as temporary store
4570         EX DE,HL          ;"hl" = start ; "de" = screen
4580         LDIR              ;start to screen, length "bc"
4590 M25      LD DE,(BUFFER+3) ;move to address
4600         AND A
4610         SBC HL,DE
4620         ADD HL,DE
4630         JR NC,LOWER        ;move block down memory
4640         EX DE,HL          ;else move block up memory
4650         AND A
4660         SBC HL,DE          ;end - move
4670         LD B,H
4680         LD C,L              ;= difference
4690         INC BC
4700 M26      LD HL,(NUM2)      ;end line
4710         INC HL
4720 M27      LD DE,(NUM1)      ;start line
4730         LDIR
4740         DEC DE
4750         INC BC
4760 RESTOR    LD HL,SCREEN
4770         POP BC
4780         LDIR              ;replace block into vacated memory
4790 M28      LD IX,IXVAL
4800         LD HL,10
4810 M29      JP RENUM1         ;renumber textfile with step 10
4820
4830 LOWER    LD HL,(NUM1)      ;start line
4840         AND A
4850         SBC HL,DE          ;start - move
4860         LD B,H
4870         LD C,L              ;= difference
4880         ADD HL,DE
4890         DEC HL
4900 M31      LD DE,(NUM2)      ;end line
4910         LDDR
4920 M32      LD DE,(BUFFER+3) ;move to
4930         JR RESTORE
```

```

4940
4950      ORG #7804      ;place in m/drive code
4960      ;tab setting, u.s. character set
4970      ;& 8 lines per inch
4980 PNTDAT  DEFB 255,27,68,6,16,36,0,27,48,27,82,128
4990      DEFB 9,27,45,129 ;tab+underline mode on
5000      DEFM "Page:"
5010      DEFB 27,45,128 ;underline mode off
5020
5030
5040      ORG #71E4      ;in "out" m/drive code
5050 STOP    LD HL, (#6B28-DK)
5060      EXX
5070      EI
5080      RST 8
5090      DEFB 8          ;stop error - new exit command
5100
5110
5120      ORG #857F
5130      DEFW MOVER-DK    ;"r" = block move command
5140      ORG #858B
5150      DEFW LISTER-DK   ;"w" = modified printer listing
5160      ORG #8585
5170      DEFW STOP-DK     ;"t" = new return to basic command
5180
5190 FNDNUM  EQU #74F5-DK
;line no. in "bc" to address in "hl"
5200 ERRMES  EQU #86C7-DK ;"*error*"
5210 FNDADR  EQU #724A-DK
;"de"=addr. of num1, "hl"=(num2)-(num1)
5220 HLEND   EQU #7519-DK ;compare "hl" and textend
5230 BUFF2   EQU #879F-DK ;raw asm. input buffer
5240 RENUM1   EQU #73EB-DK ;renumber textfile with step "hl"
5250 BINARY  EQU #6DAC-DK
5260 ESC      EQU 27       ;printer escape chr$
5270 TAB     EQU 9        ;tab chr$
5280
5290      ORG 36156        ;extend gens jump table
5300
5310      DEFW M1-DK1
5320      DEFW M2-DK1
5330      DEFW M3-DK1
5340      DEFW LIST3-DK1
5350      DEFW M5-DK1
5360      DEFW LIST4-DK1
5370      DEFW M7-DK1
5380      DEFW M8-DK1
5390      DEFW M9-DK1
5400      DEFW M10-DK1
5410      DEFW M11-DK1
5420      DEFW M12-DK1
5430      DEFW M13-DK1
5440      DEFW M14-DK1
5450      DEFW M15-DK1
5460      DEFW M16-DK1
5470      DEFW MOVER-DK1
5480      DEFW M18-DK2
5490      DEFW M19-DK1

```

5500	DEFW M20-DK1	
5510	DEFW M21-DK1	
5520	DEFW M22-DK1	
5530	DEFW M23-DK1	
5540	DEFW ERR1-DK1	
5550	DEFW M24-DK1	
5560	DEFW M25-DK2	
5570	DEFW M26-DK1	
5580	DEFW M27-DK2	
5590	DEFW M28-DK2	
5600	DEFW M29-DK1	
5610	DEFW LOWER-DK1	
5620	DEFW M31-DK2	
5630	DEFW M32-DK2	
5640	DEFW STOP-DK1	
5650	DEFW 0	;table end marker

Well thats it, five parts all done. I hope that the comments and explanation will enable you to convert GENS 3.2M to disc usage. I can't say for certain if the code will work on later versions of GENS but thing can't be that different so a little disassembly work on your version will soon point you in the right direction.

If any of you have made enhancements of your own why not drop me a line, c/o FORMAT, as I would be only to pleased to hear from you.

* - * - * - *

BACK ISSUES

For members who have missed past issues of FORMAT (or perhaps worn theirs out through constant use) we run a back-issue service.

The cost is 65p per copy (85p overseas) which includes postage. Your copies will be sent out as soon as possible but, in order to keep printing costs down, it may take up to 28 days for us to dispatch. Make cheques (drawn on UK bank or Euro-Cheques) payable to INDUG.

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Issue 5 - December 1987.	Issue 10 - May 1988.

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THE HELP PAGE

Problems with your DISCiPLE, PLUS D or Spectrum. Dont worry, let the HELP PAGE sort them out. Notes One question per letter please.

TASWORD 128

Having bought a Disciple disc interface, I find that I cannot get Tasword 128 to work with it. I have contacted Tasman Software regarding the above problem and find that they cannot directly help. I was directed, however, by them to contact the Micro Shop in Glasgow, who will on receipt of the program on tape, and a fee of £7 odd, send a customised copy back to you on disc.

So far I have not availed myself of this option, preferring to find the information myself or seek advice from someone like yourselves, hopefully costing somewhat less. I look forward to hearing from you soon.

M.A.Hindle. Norwich.

Tasword 128 is not compatible with disc because it makes illegal calls to the Interface 1 ROM when you attempt to use the microdrive commands.

However, I would not recommend the conversion you where told about. It is not a complete conversion, you lose several features, and it does have some major bugs. A new conversion is being worked on and this should be available through INDUG very soon so keep watching these pages.

- - - - -

I'm trying to convert a program from microdrive to DISCiPLE and have come up against the following lines:

```
OPEN #4;"m";1;"test":.....:CLOSE #4
```

It doesn't work, the computer resets thats all. Any idea why?

Paul Ork. Sweden.

Yes Paul, the correct syntax for the DISCiPLE or PLUS D is:

```
OPEN #4;d1"test" (IN or OUT):.....:CLOSE #4
```

Note the '*' in the close, this is to force a syntax failier in the Spectrums ROM so the DOS can process the command. The 'IN' or 'OUT' instructs the DOS in the obvious way if they are left off, the file will be opened to READ, if it exists on the disc, or else as a WRITE file.

- - - - -

More from the HELP PAGE next month..

THE MICRONET PAGE

A MONTHLY FEATURE

By: Patrick McMahon.

This month I am looking at the message services available on Prestel and Micronet. Prestel has a number of different types of message services which include:- Mailboxes and Telexes.

Mailboxes have been around for quite some time, almost since Prestel's birth. All mailboxes are handled by PANDORA, a Prestel computer, which receives the mailbox messages and holds them until a user wants to read, erase or store them. There are about half a million mailbox messages sent every month, by anyone who wants to communicate with other Netters. With all this it is not surprising that PANDORA has to be closed for half an hour a night, usually at about two in the morning.

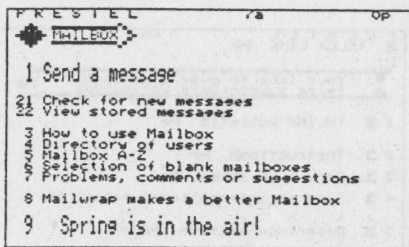


Fig 1

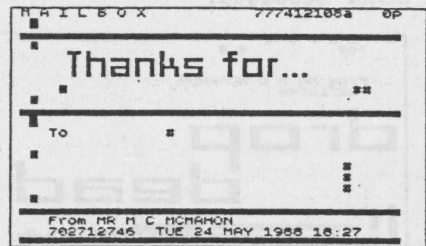


Fig 2

The system is soon to be improved with such things as; reply option, forward option, distribution lists, longer messages, summary lists of new and stored messages and acknowledgements of receipt. These additions should make what is a more than adequate service even better.

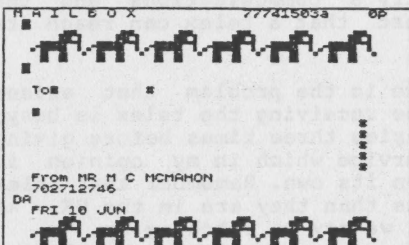


Fig 1

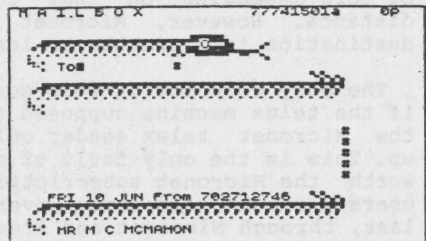


Fig 2

Sending a mailbox is very easy, keying *7# will get you to the mailbox page where you can select a variety of different types of mailbox frames. These range from "Thank-you" frame to one

that says "Drop Dead", all rather crudely drawn using the limited graphics available on Prestel. Once you have chosen your message frame, which can be just a text only one, all you have to do is to key in the mailbox number of the person you want to send it to, write your message and then send it. The person will receive the mailbox the next time he logs onto Prestel.

Incidentally, the Mailbox frames, and all other frames on Micronet for that matter, are going to cost 1p a time per minute to access from 1st July. This is proving very unpopular with almost all Micronetters and, it is hoped, protest will force a change of Micronet's mind.

A telex service is also available on Micronet, using Micronet as the telex base and distributing the telexes by means of its mailbox system. Sending the telex is very similar to sending a mailbox although, of course, the telex can be transmitted anywhere in the world (providing that the person you are sending to has telex facilities). To receive a telex just give the sender the Micronet telex number and your mailbox number and off they go. Incoming telexes will appear in your mailbox just like other messages.

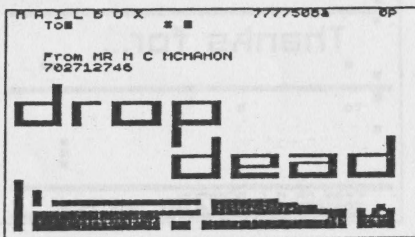


Fig 3

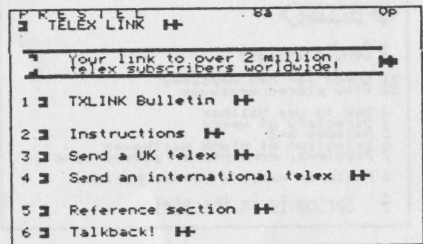


Fig 4

This is extremely good value comparing the price of a telex machine (£1000+ in most cases) against that of a cheap computer, modem and a subscription to Micronet. Sending a telex anywhere in the UK will only cost 50p but overseas telexes will cost £1 or more depending on that country's communications and the distance. However, Micronet boast that a telex can reach its destination in 3 minutes or less.

The only drawback of this service is the problem that arises if the telex machine supposed to be receiving the telex is busy; the Micronet telex sender only tries three times before giving up. This is the only fault of a service which in my opinion is worth the Micronet subscription on its own. Remember that telex users are much more common overseas than they are in the UK. At last, through Micronet and Prestel we may be catching up.

By the way, if any of you have any comments, problems or otherwise do not hesitate to contact me on Micronet, my mailbox number is 702712746.

Next month's article will be on the weather and news coverage on Micronet.

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T004	I.B.U.	The highly successful 'Incremental Backup Utility', written by Nev Young. As featured in Issues 5,6,7 & 8 of FORMAT.
T005	TAPE-SNAP	Transfer 48k Snapshots to tape with this easy to use program. Transferred Snaps will reload and run without the disc system present.
T006	ART STUDIO	A conversion program for the OCP ART STUDIO. Configure Art Studio in the normal way then run this program to convert to disc operation.

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